

CLAIMS

1. A seatbelt buckle apparatus with a buckle assembly including upper and lower cases coupled to each other, a release button coupled to a frame for unlatching a locking bar of a locking lever from a tongue, an ejector elastically and movably supported in a slidable aperture for discharging the tongue latched to the locking bar out of outside responsive to the release button, the locking lever including a slider elastically and movably mounted on a guide surface thereof and for being pivoted at one end portion and latching/unlatching the tongue at the other end portion, a frame including a bottom plate on which the ejector is movable, front wall constituted as an arched supporting beam on which the slider is supported and side walls having an upper end portion on which the locking lever is pivotally rotated at its rear end, in which the seatbelt buckle apparatus are mounted, characterized by:

a hall sensor assembly including a hall sensor portion containing a hall sensor and a printed circuit board electrically connected to the hall sensor in one package, a base plate electrical connected at one end portion to the printed circuit board and at the other end to a cable having control lines and power lines, on the upper surface of which a metal pattern is formed, with means for coupling with the frame, a movable member freely moving on the base plate with a first permanent magnet mounted at its center portion and a pair of contact terminals contacted with the metal pattern and a terminal block including the control lines and power lines contained therein and means for determining the position of the hall sensor assembly and fixing it in the lower case;

the lower case including means for determining the position of the hall sensor assembly and fixing it thereon;

the frame including means for determining the position of the hall sensor assembly and fixing it thereto; and

the ejector including a second permanent magnet to be cooperated with the hall sensor responsive to the movement thereof and a pair of leg portion projected from a lower surface thereof to be cooperated with the movable member.

2, The seatbelt buckle apparatus of Claim 1 characterized wherein:

the lower case comprises a position determining projection for determining the

mounting position, ribs for supporting the front portion of the hall sensor portion, a first supporting block positioned on the front portion of the terminal block contacting with the base plate for supporting the base plate and a second supporting block inserted in a groove portion of the terminal block for supporting the terminal block, which are integrally formed on the bottom of the lower case.

3. The seatbelt buckle apparatus of Claim 1 characterized wherein:

the hall sensor portion includes a front portion coupled with the front wall of the lower case, the base plate includes a positioning member for determining the position to be coupled with the frame and a hook portion formed adjacent the terminal block to be coupled with the frame.

4. The seatbelt buckle apparatus of Claim 1 characterized wherein:

the frame includes a coupling groove for determining the position to be coupled with the hall sensor assembly and a coupling surface to be engaged with the hook portion of the base plate.

5. The seatbelt buckle apparatus of Claim 1 characterized wherein:

any one of the first and second permanent magnets is used to be cooperated with the hall sensor portion.